STARTING AND SHUTTING DOWN ENGINES

Purpose

The purpose is to demonstrate and practice starting and shutting off an engine.

Location -- Off Street

Directions

1. Instructor will demonstrate the start up and shut down techniques using procedures outlined in classroom activity and based on manufacturers instructions. Verbal explanation of technique should be given simultaneously.

2. In instructor must be in the car with each student as he practices in order to correct errors in procedures as they occur.

Observation

The instructor will observe for failure to perform the following procedures properly:

- Set parking brake,
- Place transmission in PARK. (Automatic transmission)
- Disengage clutch and move gearshift to neutral (Manual transmission)
- Keep clutch disengaged until engine is running (Manual Transmission)
- If cold engine, press accelerator to floor and release.
- If engine warm, press accelerator no more than half way to floor.
- Insert ignition key and turn clockwise until starter kicks in.
- Release key as soon as ignition catches.
- Check all gauges. Make sure all indicator lights are off

<u>Turning off engine</u> (See manufacturer's instructions also)

Place transmission in park (automatic transmission) or neutral (manual transmission)

Turn wheels to the proper position and set parking brake

Turn switch key to off position.

Evaluation

Student performance will be evaluated against the compliance with prescribed procedures.

STOP LINE

Purpose

The purpose of this exercise is to develop student ability to stop at a predetermined point.

Location -- Off Street

Stop line should be marked at beginning and ending point of all other off street exercises

Line may be marked with two cones, spaced wider than the vehicle, the line being an imaginary line between the two. Line may also be marked with chalk. A chalk line should be at least 2 inches wide and at least 5 feet long

Directions

1. Incorporate exercise into all other exercises.

2. Instructor demonstrates exercise at least once when demonstrating other exercises

3. Students will attempt to stop 12 inches from stop line before entering and exiting each exercise layout

Observation

The instructor should observe and correct the following error:

The student approaches the stop line too fast or the student begins to decelerate too soon.

Evaluation

Student performance will be evaluated against the following criteria:

Smoothness of stop, i.e., no nose rebound, vehicle movement that indicates quick stop

Ability to stop within 12 inches of each stop line and not go over

PUTTING THE VEHICLE IN MOTION

Purpose

The purpose of this lesson is to provide students with practice in putting the vehicle in motion.

Location -- Off Street

Directions

1. Place three markers (e.g., cones) in a straight line, one every 50 feet (approximately).

2. Instructor explains and demonstrates exercises

- Put vehicle in motion
- Travel approximately 50 feet and stop at the first marker
- Begin motion again, travel another 50 feet and stop at the second marker
- Begin motion again, travel the remaining 50 feet and stop at the final marker cone.
- Back in straight line to beginning of exercise

  Put vehicle in reverse

  Turn to look out rear window

  Back in straight line to second marker and stop

  Put the vehicle in motion once more, backing to beginning exercise marker and stopping

3. Student performs the exercise according to procedures listed above

Instructor remains in the car during exercise to give instruction and assistance

Observers (if any) must be instructed to move clear of the driver's view out the rear window during the backing portion of this exercise.

Observation

The instructor will observe for failure to perform the following procedures properly:

Putting the Vehicle in Motion

Apply brake with right foot.

Disengage the clutch and shift to first gear (manual transmission). Shift to DRIVE (automatic transmission).

With right foot still on brake, release parking brake.

When ready to move, place right foot on accelerator and press down slowly. (automatic transmission)

When ready to move, place right foot on accelerator and press down slightly to race engine. (manual transmission)

Lift left foot slowly until clutch reaches friction point. (manual transmission)

Engage clutch slowly until vehicle is moving and clutch is fully engaged. (manual transmission)

When clutch is engaged press accelerator down slowly. (manual Transmission).

Stopping

- Release accelerator pedal
- Depress brake pedal
- As the vehicle begins to slow, decrease brake pedal pressure
- Stop vehicle smoothly by releasing brake pressure in relation to vehicle stopping rate
- As vehicle halts, release pedal completely (manual transmission)
- Disengage clutch as vehicle halts (manual transmission)
- After halting, place gearshift lever in neutral and reapply brake just enough to keep vehicle stationary (manual transmission)
- When vehicle has come to a complete halt reapply brakes to keep vehicle from moving (automatic transmission)

Backing in a straight line

- Put vehicle in reverse
- Back slowly
- Don't ride clutch or brake
- Constantly check behind by turning to look out rear window

Evaluation

Student performance will be evaluated against the following criteria:

1. Puts vehicle in motion smoothly (no lugging, stalling, or overrevving)

2. Stops smoothly (no stalling, jerking, nose rebound, locking up of wheels)

3. Backs in straight line properly with decreasing need to correct drift

SERPENTINE

Purpose

The purpose of this exercise is to give students initial practice turning over a course with gentle curves and wide dimensions.

Location -- Off Street

Directions

Set up four markers (e.g., cones) in a straight line approximately 50 feet apart.

1. The instructor describes and demonstrates the exercise to students

2. Students weave among the markers. The approach to the first cone is alternated, right side, left side, etc.

3. Once the vehicle has passed the final marker the driver stops, puts the vehicle in reverse and follows the same path back through the markers to the starting point

4. Instructor remains in car during exercise to give instruction and feedback and to regulate degree of difficulty by approach speed.

5. Observers (if any) remain in the vehicle except one observer who stays outside to keep count of, and reset, markers that are struck. Observers must be instructed to stay clear of the drivers rearward field of view during the backing portion of the exercise.

Observations

The instructor will observe for failure to perform the following procedures properly:

Line the vehicle up before beginning each run through the serpentine course

Maintain a speed limit that permits the course to be completed as quickly as possible with mini mum sway or the need to brake in turns

Make turns at the appropriate point to maintain the straightest possible course without knocking over the markers

When stopping and backing up, do so smoothly with proper braking and shifting

Keep eyes focused on the far end of the course rather than the marker immediately in front of the vehicle

Evaluation

Student performance will be evaluated against the following criteria:

1. Time to complete each run
2. Number of markers struck
3. Ability to maintain a constant speed and as straight a course as possible

FIGURE 8

Purpose

The purpose of this exercise is to give students an opportunity to practice driving in a restricted area with more difficult curves than in the Serpentine exercise.

Location -- Off Street

Direction

1. Set up six cones in two rows of three cones each. Cones within a row should be approximately 30 feet apart. The two rows should be approximately 100 feet apart.

2. The instructor describes and demonstrates the exercise as described below.

- At the starting point the car faces the two rows of three cones (perpendicular to the rows). Approximately one car length from the closest row and midway between the left most and center cone.
- Enter the exercise between the left-most and center cones of the nearer row.
- Turn to the right and pass through the second row between the center and right-most cones.
- Turn around the center cone and reenter the space between the two rows.
- Exit the space between the two rows between the left-most and center cones.
- Swing to the right around the center cone and return to the starting position. The figure eight is complete

3. Students perform the exercise as described above two times then reverse direction after which they alternate direction after each trial.

4. Instructor remains in car during exercise to give instruction and feedback and to regulate degree of difficulty by encouraging students to raise or lower speed.

5. Observers remain in vehicle except one observer who stays outside to keep count of, and reset, markers that are struck.

Observation

The instructor will observe for failure to perform the following procedures correctly:

Make smooth, constant radius turns at each end of the figure 8

Begin each turn at the appropriate point to permit a constant radius turn

Operates at a speed that allows the exercise to be completed as quickly as possible without excessive vehicle sway.

Keep eyes focused upon the next marker rather than the one being negotiated.

Make each change of direction in a smooth, continuous motion.

DEVELOPMENT OF SHIFTING SKILLS

Purpose

The purpose of this exercise is to provide students with practice upshifting and downshifting a vehicle with a manual transmission

Location -- Off Street

Directions

1. Set up markers to represent start and stop lines, approximately 300 feet apart

2. Instructor reviews and demonstrates shifting techniques

   - Instructor starts at one line, drives a straight path of travel beginning in first gear, accelerating, shifting into second then decelerating and downshifting first gear.
   - Stops vehicle at end marker at opposite end of course.
   - Backs the vehicle into original starting position.

3. Student (accompanied by the instructor and observers, if applicable) performs the above exercise

4. Additional practice should be allowed for students that are slower to learn.

Observation

The instructor will observe for failure to perform the following procedures properly:

Starting the engine

Braking/stopping

Upshifting

Downshifting

Speed control

Straight line backing

Securing vehicle properly before getting out

Evaluation

Student performance will be evaluated against the following criteria:

Overrevving

Lugging

Excessive rpm drop

Missed shifts

PARALLEL PARKING

Purpose

The purpose of this exercise is to demonstrate and practice parallel parking.

Location -- Off street

Directions

1. Form a "parallel parking spot" by setting two lines of cones approximately 30 feet apart connected along one side by another line of cones. If possible use large cones in the corners of the space with dowel rods inserted in them so that drivers can see the corners of the parking spot from inside the car.

2. Instructor demonstrates parallel parking maneuver for students

- Stop car with back end even with back of vehicle in front of parking spot, with approximately 18" of space between the vehicles
- Check for left front fender clearance and clearance behind
- Back slowly, turning steering wheel to the right so as to aim back of car toward the front of the car parked behind the slot
- As front wheels come even with rear wheels of car parked ahead, begin to straighten steering wheel
- When right front fender clears rear of car ahead, turn steering wheel sharply left while continuing to back slowly
- Continue backing until car almost touches vehicle behind (if space is large enough, driver may have to straighten wheels earlier to keep back end from heading out into traffic lane)
- Straighten wheels and pull forward until car is centered in parking space.
- Put car in PARK (automatic transmission) or second gear (manual transmission) and set brake
- Get out and determine if the car has been parked according to the criteria listed in the Evaluation section.

3. Instructor demonstrates pulling out of parallel parking spot.

- Get back in the car, start it and put it in reverse.
- Back to the rear of the space turning the wheels slightly to the right as you go.
- At the rear of the space put the car in forward and cut the wheels hard to the left to pull out of the space.
- Once out of the space, back to a point upstream of the space. Stop and secure the car. The car is now in position to begin another parallel parking exercise.

4. Student performs the above exercise. Observers (if any) rotate between watching the exercise from inside and outside the car. Observers in the car must be instructed to stay clear of the rearward field of view of the driver.

Observation

The instructor will observe for failure to properly perform the procedures listed above.

Evaluation

Student performance will be evaluated against the following criteria:

1. Does not hit any course markers or cross the boundaries of problem

2. No more than three pullups permitted

3. Parks 12" to 15" from curb